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AS

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/485,559	02/11/00	BOEHMER	FL1049

IM22/0327

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EXAMINER
MANOHARAN, V

ART UNIT	PAPER NUMBER
1764	3

DATE MAILED: 03/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/485,559

Applicant(s)
Boehmer et al

Examiner
VIRGINIA MANOHARAN

Group Art Unit
1764



☒ Responsive to communication(s) filed on Apr 13, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-11 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-11 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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The specification has not been checked to the extent necessary to determine the presence of all possible minor errors e.g., typographical, grammar, idiomatic, syntax are Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claims 1-11 are rejected under 35 U.S.C. 112, first and second paragraphs, as the claimed invention is not described in such full, clear, concise and exact terms as to enable any person skilled in the art to make and use the same, and/or for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The compound "chlorodifluoromethane" in claim 1, line 3 is abbreviated as (CFC-12) which appears to be inconsistent with the specification recitation at page 1, line 27 and line 29 "dichlorodifluoromethane (CCl_2F_2 , CFC-12)", and chlorodifluoromethane (CHClF_2 , HCFC-22)" respectively.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) the "comprising" recited in the Markush grouping of claim 1, lines 10, 13 and 19 constitutes an improper Markush language. The same hold true for the "or greater" recitation in

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line 18. Those reviewing a claim from either a patentability or infringement viewpoint are capable of knowing exactly what is covered by the claim when the Markush group is in proper form. In the instant case, one simply doesn't know what is intended to be included within the Markush group with the comprising recitation which is an all inclusive-term as opposed to the initially recited "consisting of" in line 9 of claim 1.

B) Claim 5 is at odds with claim 1, the claim from which it depends. The chloro carbon extractive agent may not be methylene chloride. (A dependent claim incorporates every limitation(s) of the claim from which it depends and cannot change the limitation already recited in the independent claim).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371[®] of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mahler et al.

Mahler et al discloses a process for separating 1,1,1-trifluoroethane (HFC-143a) from a fluorocarbon e.g., difluoromethane (HFC-32), chlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115) and pentafluoroethane (HFC-125) impurities by using extractive distillation with an extractive agent comprising an alcohol e.g., methanol, ethanol and propanol. See e.g., col. 1, lines 9-13 and 37-38. Compare further with claim 4.

Mahler further discloses at col. 2, lines 48-59 that Difluoromethane (HFC-32) is known to form an azeotropic or azeotrope-like composition with CFC-115.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahler et al in view of EP '362.

Mahler et al is discussed supra.

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EP '362 discloses in the abstract, the purification of pentafluoroethane from a crude pentafluoroethane containing chloropentafluoroethane as a by-product by extractive distillation using an extracting agent such as: paraffinic hydrocarbons, alcohols, ethers, esters and ketones.

Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Miller.

Miller discloses a process for separating HFC-32 and HFC-125 wherein methylene chloride is used as extractant in an extractive distillation process. See col. 4, lines 1-9 and claim 1 at col. 30.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cerri et al discloses a process for separating difluoromethane.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (703) 308-3844. The examiner can normally be reached on Monday-Friday from 6:30 A.M. to 3:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Marian Knode, can be reached on (703) 308-4311. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718.

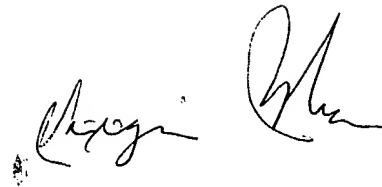
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

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3/26/01/rholland



VIRGINIA MANOHARAN
PRIMARY EXAMINER

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